05-GF-113
(5780)

STURGEON BAY UTILITIES

230 E. VINE STREET
P O BOX 27
STURGEON BAY WI 54235
PHONE: (920) 746-2820
FAX: (920) 746-2822

RECEIVED

Electric Division

January 17, 2003

Mr. Scot Cullen, Chief Electric Engineer
Public Service Commission
610 N. Whitney Way
P.O. Box 7854
Madison, WI 53707-7854

RE: In the Matter of Filing Reporting Requirements for Appropriate Inspection and Maintenance, PSC Rule 113.0607(6)

Dear Mr. Cullen:

Enclosed for filing are 3 copies of Sturgeon Bay Utilities report to the commission, submitted every two years, showing compliance with its Preventative Maintenance Plan.

Very truly yours,

Jason Bieri
Electric Supervisor

Enclosures

Jason Bieri

Electric Supervisor

TWO YEAR REPORT DOCUMENTING COMPLIANCE WITH THE PREVENTATIVE MAINTENANCE PLAN

Sturgeon Bay Utilities

FILING DEADLINE
FEBRUARY 1, 2003

January 17, 2003

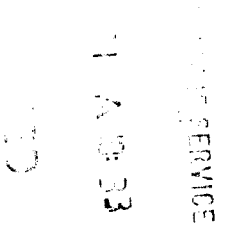
Jason Bieri

230 E. Vine Street

Sturgeon Bay WI 54235

920-746-2045

jbieri@wppisys.org



This report format was prepared by the MEUW work group for PSC Rule 113.0607 for use by the 82 municipal electric utilities in Wisconsin and endorsed by PSC staff as meeting the requirements of Rule PSC 113.0607.

I Reporting Requirements: PSC 113.0607(6) states;

Each utility shall provide a periodic report to the commission showing compliance with its Preventative Maintenance Plan. The report shall include a list of inspected circuits and facilities, the condition of facilities according to established rating criteria, schedules established and success at meeting the established schedules.

II Inspection Schedule and Methods:

SCHEDULE:	MONTHLY	ANNUAL	EVERY 5 YEARS
Transmission (≥69Kv)		X	X
Substations	X	X	
Distribution (OH & UG)			X

METHODS: Five criteria groups will be used to complete the inspection of all facilities.

1. IR – infrared thermography used to find poor electrical connections and/or oil flow problems in equipment.
2. RFI - Radio Frequency Interference, a byproduct of loose hardware and connections, is checked using an AM radio receiver.
3. SI – structural integrity of all supporting hardware including poles, crossarms, insulators, structures, bases, foundations, buildings, etc.
4. Clearance – refers to proper spacing of conductors from other objects, trees and conductors.
5. EC – equipment condition on non-structural components such as circuit breakers, transformers, regulators, reclosers, relays, batteries, capacitors, etc.

Distribution facilities will be inspected by substation circuits on a 5 year cycle such that the entire system will be inspected every 5 years. Inspector instructions for inspecting all facilities and forms are included in the plan.

III Condition Rating Criteria

This criterion, as listed below, establishes the condition of a facility and also determines the repair schedule to correct deficiencies .

0) Good condition
1) Good condition but aging
2) Non-critical maintenance required – normally repair within 12 months
3) Priority maintenance required – normally repair within 90 days
4) Urgent maintenance required – report immediately to the utility and repair normally within 1 week

IV Corrective Action Schedule

The rating criteria as listed above determine the corrective action schedule.

V Record Keeping

All inspection forms and records will be retained for a minimum of 10 years. The inspection form contains all of the required critical information i.e. inspection dates, condition rating, schedule for repair and date of repair completion.

VI Reporting Requirements

A report and summary of this plan's progress will be submitted every two years with the first report due to the Commission by February 1, 2003. The report will consist of a cover letter documenting the percent of inspections achieved compared to the schedule and the percent of maintenance achieved within the scheduled time allowance.

VII Inspected Circuits and Facilities

Circuit # and description	Substation
All underground	1st Avenue Substation
All underground	Redwood Substation
All underground	Industrial Substation
Idlewild Circuit – Overhead (start around Feb or March 2003)	Redwood Substation

Base load and peaking generation, less than 50 megawatts per unit in size, is typically subject to pre-operational checks, in addition to checks and maintenance during and after periods of operation. Emergency generation is test run and maintained every *month* to confirm its operational readiness. Sturgeon bay Utilities has generation in its wastewater treatment plant. It is maintained by our wastewater employees. I do not believe it is generation that can be fed back onto our electric system. It is used only to support our plant if there is a failure on our electric system.

VIII Scheduling Goals Established and Success of Meeting the Criteria:

There have been some changes at Sturgeon Bay Utilities over the past year. We lost several employees to retirement and termination. It was our Utility commissions decision not to fill most of the vacancies until 2003. That being said we fell behind in some of our inspections.

We completed all of our monthly Substation Inspections with no major events. The substations were also inspected informally weekly by the electrical supervisor.

We completed our yearly transmission line inspection for American Transmission Company. During the inspection we found one major event . A static wire had come un-clipped and was resting on a cross member of the structure. It was repaired immediately. After our transmission line inspections we also put new high voltage signs on the poles and many new ground wire mouldings. Our I-87 and T-46 lines were inspected and treated by Osmose in 2002. I-87 was also trimmed in 2001 by Asplundh Tree. That same line is due to be sprayed in 2003 to prohibit new growth.

It was decided that we needed to complete an on going mapping project of our electric system. That project is due for completion by the early spring of 2003. During the mapping project we needed to physically G.P.S all of our underground electric cabinets. While we were doing that we also took the time to inspect the cabinets. That being said we did 100% of our underground inspections required in this agreement late in 2002. We will be going back to make all the necessary repairs in the next month or so. None of the repairs that we need to make are critical as our underground is in overall good condition. We have also done a lot of infrared testing in our underground system in the past two years. Until we did our mapping in 2002 we did not really know how many underground cabinets we had. After evaluating all of the data available to us, we are estimating that we have done infrared testing on about 90% of our underground system since 2001. A large amount of our underground conductors are in conduit. Any new or replaced conductors are placed in conduit. Last year we replaced 4 cables that were direct buried that we anticipated were going to fail in the next couple of years. We had two cables that also failed in 2002 that were also replaced.

As stated earlier, due to a shortage of help we feel behind in some of our inspections. Those were primarily in the overhead system. We will be hiring a new lineman in February. With that hire we will be able to send a crew out to start on our overhead inspection. We will be inspecting our largest circuit (Idlewild) in the late winter early spring of 2003. It is estimated that we will have inspected at least 1000 poles by the spring of 2003. We will immediately follow up the inspection with any needed repairs. We also have a portion of our electric system that is still 2400 volts. We are working to eliminate that over the next 5 years.

IX Facility condition – rating criteria:

Sturgeon Bay Utilities underground distribution system is in very good condition. With 100% of our underground system inspected we did find a number of ranch-runner style transformers that we anticipate changing out. The transformers often give our lineman trouble when working on them when it comes to available room to install new components. We will be placing new signage on all the cabinets that need it in the next couple of months.

Two of our substations (1st Avenue and Industrial) are in very good condition. Our Redwood substation is in a little worse condition. The fencing around the facility is going to be replaced in 2003. We will also be working in the

substation over the next year to clean up some unused equiptment in it. I am hoping to test all of our relay equiptment in the next two years.

Not having inspected our overhead system we cannot say what we will find for problems. From everything we see in our every day travels we believe we have a very good overhead system. A large portion of our system is Hendrix tree wire or spacer cable. That has dramatically and almost eliminated trouble calls except for the occasional squirrel fatality. As stated earlier we do have some 2400 volt circuits in our system but we are looking forward to eliminating them.